Willem van Leeuwen

Professor Innovative Molecular Diagnostics, Toplab, University of Applied Sciences Leiden, The Netherlands

How to write and submit an article

DO'S AND DON'TS

Workshop TUMS

August 2014

Writing abstracts, full articles and getting them published in peer reviewed journals

1. PROBLEMS IN ARTICLE WRITING AND SUBMISSION
2. STANDARD OPERATING PROCEDURES FOR ARTICLE SUBMISSION
3. HOW TO WRITE A GOOD ABSTRACT AND ITS KEY PRINCIPLES

1. PROBLEMS IN ARTICLE WRITING AND SUBMISSION

- Work in a pre-defined order
- Be direct and concise
- Be accurate
- Be truthful (integrity issues)
- Select an appropriate journal (classical, open access, topic coverage, one of the Top 10 in the field)

Examine the meaning of every word and make sure that the text means exactly what you want to say.

Make sure that every verb refers clearly to its correct subject.

General lay-out of a scientific manuscript

- **TITLE PAGE**
- **AUTHORS, AFFILIATIONS AND, POSSIBLY, CONFLICT OF INTREST OR PRIOR PRESENTATIONS**
- **ABSTRACT (possibly, a translation into a certain specific language)**
- **(AUTHORS SUMMARY: PLoS JOURNALS)**
- **INTRODUCTION**
- **MATERIALS AND METHODS**
- **RESULTS**
- **DISCUSSION**
- **ACKNOWLEDGEMENTS**
- **LITERATURE REFERENCES**
- **TABLES**
- **FIGURES**
- **SUPPLEMENTARY MATERIALS**

Key points for TITLE PAGE

- **Make sure that your title is informative, attractive and as short as possible**

RespiFinder: a New Multiparameter Test To Differentially Identify Fifteen Respiratory Viruses[▽]

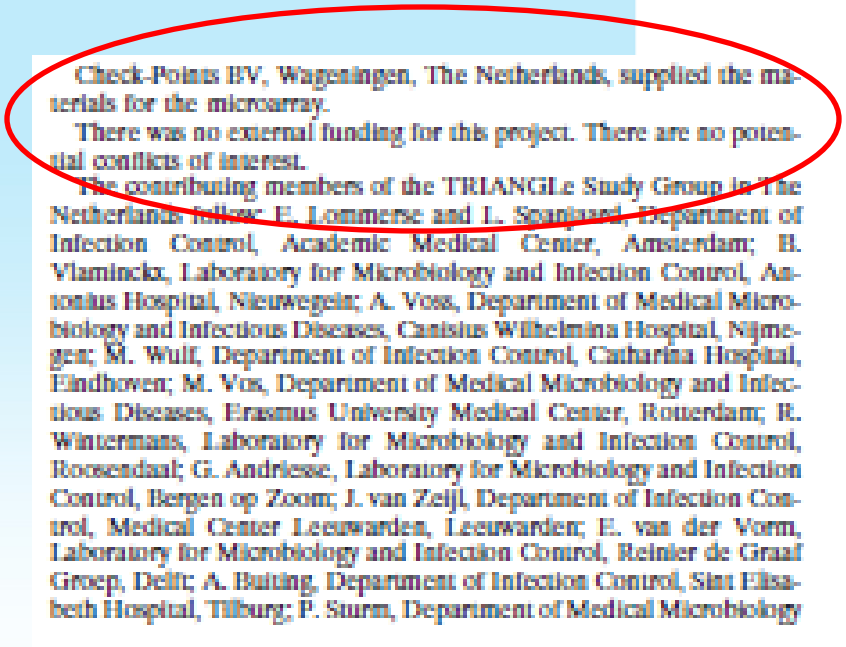
Martin Reijans,[1]* Gijs Dingemans,[1]† Corné H. Klaassen,[1] Jacques F. Meis,[1] Judith Keijdener,[2] Brit Mulders,[2] Kimberly Eadie,[3] Willem van Leeuwen,[3] Alex van Belkum,[3] Alphons M. Horrevorts,[1] and Guus Simons[2]

Department of Medical Microbiology and Infectious Diseases, Canisius Wilhelmina Hospital, Nijmegen, The Netherlands[1]; PathoFinder BV, Maastricht, The Netherlands[2]; and Department of Medical Microbiology and Infectious Diseases, Erasmus Medical Center Rotterdam, Rotterdam, The Netherlands[3]

- Make sure that all authors are included
- Discuss the authors order with all coauthors and position all authors according to their contributions (relevant: 1st, 2nd, senior…credits from university)
- Make sure that their affiliations are correct
- Clearly identify the communicating author (include: address, tel. no, e-mail)

Key points for Affiliation and Conflict of Interest

- Make sure that all potential conflicts of interest are well defined. This may include:
  - Sponsorship
  - Commercial affiliations of authors
  - Financial interest of authors
  - Potential patent issues



Check-Points BV, Wageningen, The Netherlands, supplied the materials for the microarray.

There was no external funding for this project. There are no potential conflicts of interest.

The contributing members of the TRIANGLe Study Group in The Netherlands follow: E. Lommerse and L. Spanjaard, Department of Infection Control, Academic Medical Center, Amsterdam; B. Vlaminckx, Laboratory for Microbiology and Infection Control, Antonius Hospital, Nieuwegein; A. Voss, Department of Medical Microbiology and Infectious Diseases, Canisius Wilhelmina Hospital, Nijmegen; M. Wulf, Department of Infection Control, Catharina Hospital, Eindhoven; M. Vos, Department of Medical Microbiology and Infectious Diseases, Erasmus University Medical Center, Rotterdam; R. Wintermans, Laboratory for Microbiology and Infection Control, Roosendaal; G. Andriesse, Laboratory for Microbiology and Infection Control, Bergen op Zoom; J. van Zeijl, Department of Infection Control, Medical Center Leeuwarden, Leeuwarden; E. van der Vorm, Laboratory for Microbiology and Infection Control, Reinier de Graaf Groep, Delft; A. Buiting, Department of Infection Control, Sint Elisabeth Hospital, Tilburg; P. Sturm, Department of Medical Microbiology

Key-point for ABSTRACT, a scientific advertisement

SEE LATER SINCE THIS IS ONE OF THE MAIN ITEMS TO BE DISCUSSED IN THIS WORKSHOP!!!!

NOTE THAT THE ABSTRACT IS A VERY IMPORTANT FEATURE OF ANY PUBLISHED MANUSCRIPT: IT NEEDS TO DRAW ATTENTION OF ALL SCIENTISTS THAT MAY POTENTIALLY BE INTERESTED IN YOUR STORY!!!!

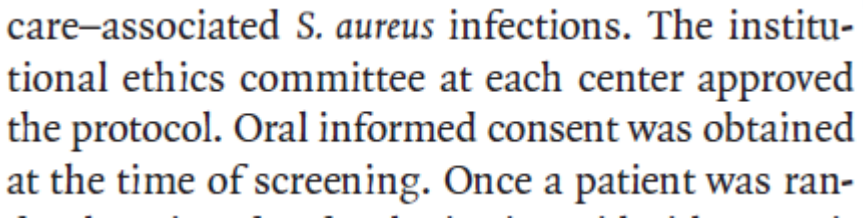
THE PITCH OF YOUR STUDY

Key points for INTRODUCTION

- Summarize the current literature without being overtly repetitive, do not copy texts from other papers.
- Make sure that all relevant “state-of-the-art” knowledge is touched upon.
- End with: clearly identify the goal of your studies and (very) briefly outline what it is that you have done in the laboratory (M&M, strategy) or behind the computer (statistics…)

Key points for MATERIALS and METHODS

- This section should be written in such a sense that any person knowledgeable in the field could repeat the experiments in his or her lab and obtain essentially the same results
- Make sure that reagents or biologicals developed in the work are freely accessible to others
- Refer as much as possible to methods and recipes developed and described in detail by others (use original studies)
- Keep a logical order in your method's listing(patient-samples-technique-analysis)
- Highlight permissions obtained from Medical Ethical Review Boards if your study involves human or animal experimentation


care–associated *S. aureus* infections. The institutional ethics committee at each center approved the protocol. Oral informed consent was obtained at the time of screening. Once a patient was ran-

Key points for RESULTS

- Be very concise and avoid repetition of the description of methods
- Put your data in such an order that you work towards the description of your main findings
- Usually, one good table or one good figure should spare half a page (or more) text
- Do not extensively discuss the data presented in tables and figures but **merely highlight the important features**

Key points for DISCUSSION

- DO NOT REPEAT THE RESULTS SECTION!!
- Start: define clearly what your main findings are
- Discuss the importance of your findings in relation to the “state-of-the-art” information that you have presented in the Introduction
- Conclude with a section on the value of your new data and speculate upon the implications of YOUR findings (e.g. future perspectives)

Key points for ACKNOWLEDGEMENTS

- Thank all individuals who contributed to an extend that does not warrant full authorship; this is often quite difficult to do
- Thank your academic or commercial sponsors in a neutral way (sometimes project numbers need to be listed or standard consortium text needs to be added)

Key points for REFERENCES

- Be complete but do not include too many overlapping references (i.e. it is usually not required to list all review papers published)
- Do not include very old references, unless they are essential
- Check the lay-out requirements (instructions for authors) imposed by the journal
- **Reference management is a relief** (Endnote, Reference Manager)

Key points for TABLES

- Make sure your tables are structured well and logical in their sequence of columns and rows
- Do not over-feed the reader with (redundant) information, be selective
- Use of color can sometimes be very helpful
- Clearly indicate what the numbers shown are representing: headings of the columns are very important
- Use the table legend to add useful information (note)

Table 1. Baseline Characteristics of the 917 Study Patients.

Characteristic	Mupirocin–Chlorhexidine (N=504)	Placebo (N=413)	P Value
Mean (±SD) age — yr	61.8±13.9	62.8±13.3	0.25
Male sex — no. (%)	331 (65.7)	251 (60.8)	0.13
Hospital service — no. (%)			
Surgery	441 (87.5)	367 (88.9)	0.53
Internal medicine	63 (12.5)	46 (11.1)	0.53
Admission during month before current admission — no./total no. (%)	86/503 (17.1)	67/411 (16.3)	0.76
McCabe score at admission*			
Median	1	1	
Interquartile range	1–2	1–2	
Underlying disorder — no./total no. (%)			
Diabetes mellitus type 1 or 2	112/503 (22.3)	71/412 (17.2)	0.06
Disorder requiring continuous ambulatory peritoneal dialysis	7/504 (1.4)	4/413 (1.0)	0.57
Renal insufficiency	24/504 (4.8)	23/413 (5.6)	0.57
Immunodeficiency†	19/504 (3.8)	31/413 (7.5)	0.01
Liver-function disorder	25/504 (5.0)	22/413 (5.3)	0.80
Malignant condition	63/504 (12.5)	46/413 (11.2)	0.54
Skin disease	52/501 (10.4)	58/408 (14.2)	0.08
Antibiotic therapy — no./total no. (%)			
At time of admission	17/504 (3.4)	16/413 (3.9)	0.69
During month before admission	41/500 (8.2)	28/408 (6.9)	0.46

* We used the McCabe score, as modified by Doern et al.,[22] to classify the severity of the underlying disease as follows: 1, nonfatal; 2, possibly fatal; 3, ultimately fatal; and 4, rapidly fatal.
† Details concerning the definition of immunodeficiency are available in the Methods section of the Supplementary Appendix.

Key points for SUPPLEMENTARY MATERIALS

- Add all of the data that may be informative for readers but which are not 100% essential to follow the “flow” of the paper
- Make sure that the amount of data presented is commensurate with the journal’s requirements

Key points for FIGURES

- For figures essentially the same parameters as listed for the table are important, although in many cases color usage is more important
- Make sure the resolution allows the reader to grasps the essential details (very important for e.g. electronmicrographs or fluorescence staining
- Make sure that the figure in combination with the legend can be understood “separately”

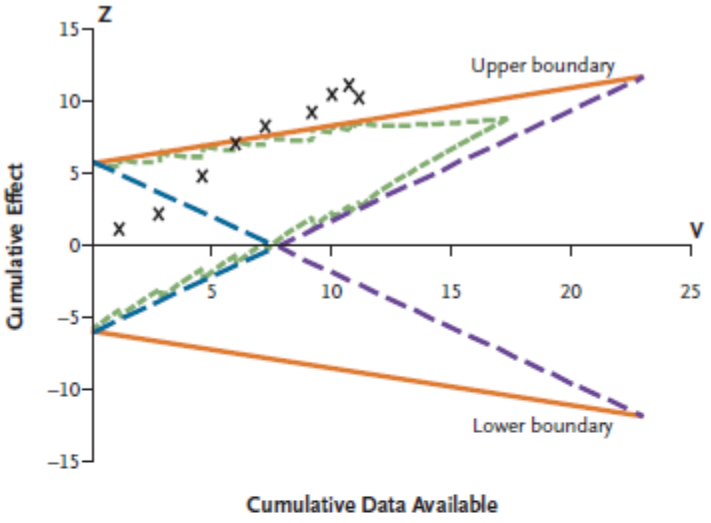


Figure 2. Results of Group Sequential Analysis.

This analysis was conducted as a double-triangular test, in which the horizontal axis (V) represents the cumulative amount of information available and the vertical axis (Z) represents the cumulative effect size. Each point (X) represents a group of 100 patients. Assumptions regarding certain variables determine the boundaries of the test (shown in orange). If the upper boundary is crossed, the intervention can be said to have a beneficial effect; if the lower boundary is crossed, the placebo is more beneficial. If one of the purple dashed lines is crossed, there is no significant difference between the intervention and the placebo. The blue dashed lines are part of the purple boundaries for futility (i.e., equivalence between placebo and intervention); if both blue inner boundaries are crossed, futility would be concluded. The green dashed lines are boundaries that act as a continuity correction. Z represents the difference between the number of infections observed and the number theoretically expected. V represents the variance of Z under the null hypothesis (i.e., no difference between intervention and placebo). In this case, mupirocin–chlorhexidine significantly reduced the cumulative incidence of hospital-acquired *S. aureus* infection (P=0.008).

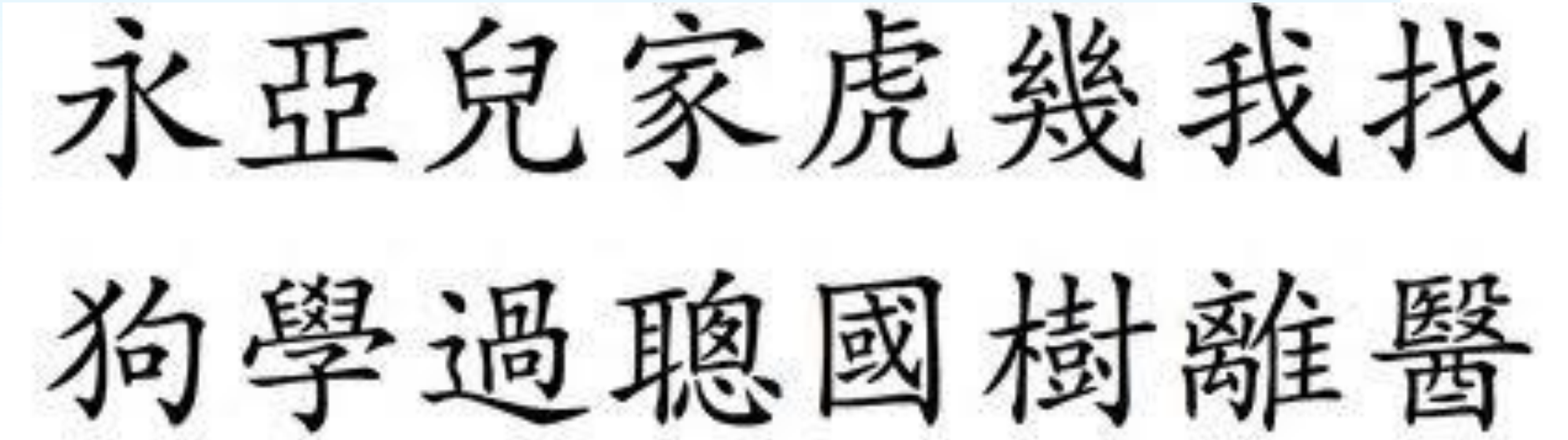
Key points for SUPPLEMENTARY MATERIALS

- Add all of the data that may be informative for readers but which are not 100% essential to follow the “flow” of the paper
- Make sure that the amount of data presented is commensurate with the journal’s requirements

hogeschool Leiden

TopLab

SOME FREQUENTLY OBSERVED TEXTUAL PROBLEMS



CIRCUMLOCUTION

THE ART OF SAYING, ELEGANTLY AND IN A GREAT MANY WORDS, WHAT COULD BE SAID BETTER IN A FEW WORDS

“it would appear that the present time a favorable climatic situation prevails; however, the available visual data tend to indicate that the possibility of eventual precipitation can not be altogether eliminated in evaluating on, what seems, on reflection, to have been a perhaps unjustifiably optimistic statement”.

GOOD MORNING DEAR, IT IS A BEAUTIFUL DAY!!

Another example

“this spouse desires as nutriment the following: pre-chilled citrus juice contained in a glass greater than the conventional volume, bacon, and/or ham in a sliced and fried condition, together with eggs the scrambling of which has been facilitated by means of a butter containing skillet, one or more marmalade treated muffins of the so-called English type, and adequate quantities of an appropriate beverage at and elevated temperature”.

HERE IS YOUR BREAKFAST!!

FINAL EXAMPLE

“Regrettably, consumption of the latter of these cannot be expeditiously effected, due to the charred nature of the same”

I AM SORRY, I BURNED THE TOAST

BRIEF IS BETTER

ABSTRACTION

Any verb can be converted to an abstract noun: determination, filtration, elevation and separation are the abstract nouns derived from the verbs determine, precipitate, filter elevate and separate

Protein determinations were performed by the method of Jones

Determining the protein concentration was performed by the method of Jones

MISUSE OF PLURALS

- According to this criteria, inhibition should not occur
- This data supports our conclusion
- Neither *Pseudomonas fluorescens* nor *aeruginosa* was inhibited by this antibiotic

GENERAL ITEMS

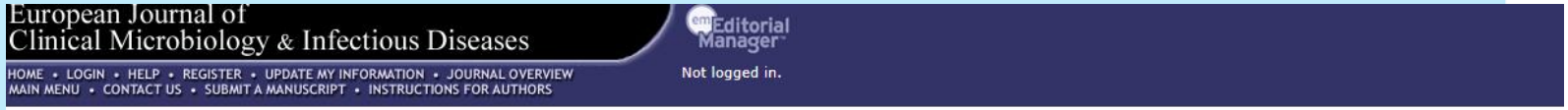
- Greek and Latin words have their own particularities and peculiarities (check the misuse of taxa)
- Avoid “laboratory slang”
- Make sure to comply with the journal guidelines (read the “Instructions for authors”)
- Have the manuscript edited by a native English speaking person!!??
- HAVE A THOROUGH FINAL CHECK!!!!

PROBLEMS WITH SUBMISSIONS

- Problems with the web site identification or accessibility
- Incorrect user ID or password
- Problems with up-loading
- Conversion to PDF does not work
- Delay in the review (do I address an editor, and, if yes, when!?)

What are your personal experiences?

2. STANDARD OPERATING PROCEDURE FOR ARTICLE SUBMISSION…A DEMO EJCMID



Springer
the language of science

Welcome to the Online Manuscript Submission, Review and Tracking System for the journal

European Journal of Clinical Microbiology & Infectious Diseases

We trust that you will find this Online Manuscript Submission, Review and Tracking System very user friendly. To make your start even easier, please find below a few instructions:

New Authors: Please click the 'Register' button from the menu above and enter the requested information. Upon successful registration you will be sent an e-mail with instructions to verify your registration.

> **Note:** When you have received an e-mail from us with an assigned user ID and password, DO NOT REGISTER AGAIN. Just log in to the system as 'Author'.

Authors: Please click the 'Login' button from the menu above and log in to the system as 'Author'. Then submit your manuscript and track its progress through the system. A wide range of submission file formats for text and illustrations is supported. Please refer to the Instructions for Authors (selectable from the menu above) for details and additional information on how to prepare your manuscript to meet the journal's requirements.

> **Note:** Please upload your manuscript only ONCE on to the system. All source files uploaded by you will be automatically compiled into a single PDF file to be APPROVED by you at the end of your submission process. While the compiled PDF will be serving for peer-review purposes, your uploaded source files will be transferred to the publisher for publication in case of acceptance. In order not to delay the publication process we strongly advise you NOT to upload file formats (like PDF) that are not processible afterwards.

Returning Authors: Please use the provided username and password and log in as 'Author' to track your manuscript or to submit a NEW manuscript. (*Do not register again as you will then be unable to track your manuscript*).

Reviewers: Please click the 'Login' button from the menu above and log in to the system as 'Reviewer'. You may view and/or download manuscripts assigned to you for review, submit your comments for the editors and the authors, and track the progress of your manuscripts through the system.

> **Note:** Please click the 'Accept' or 'Decline' button as soon as possible after receipt of the e-mail asking you to review a manuscript.

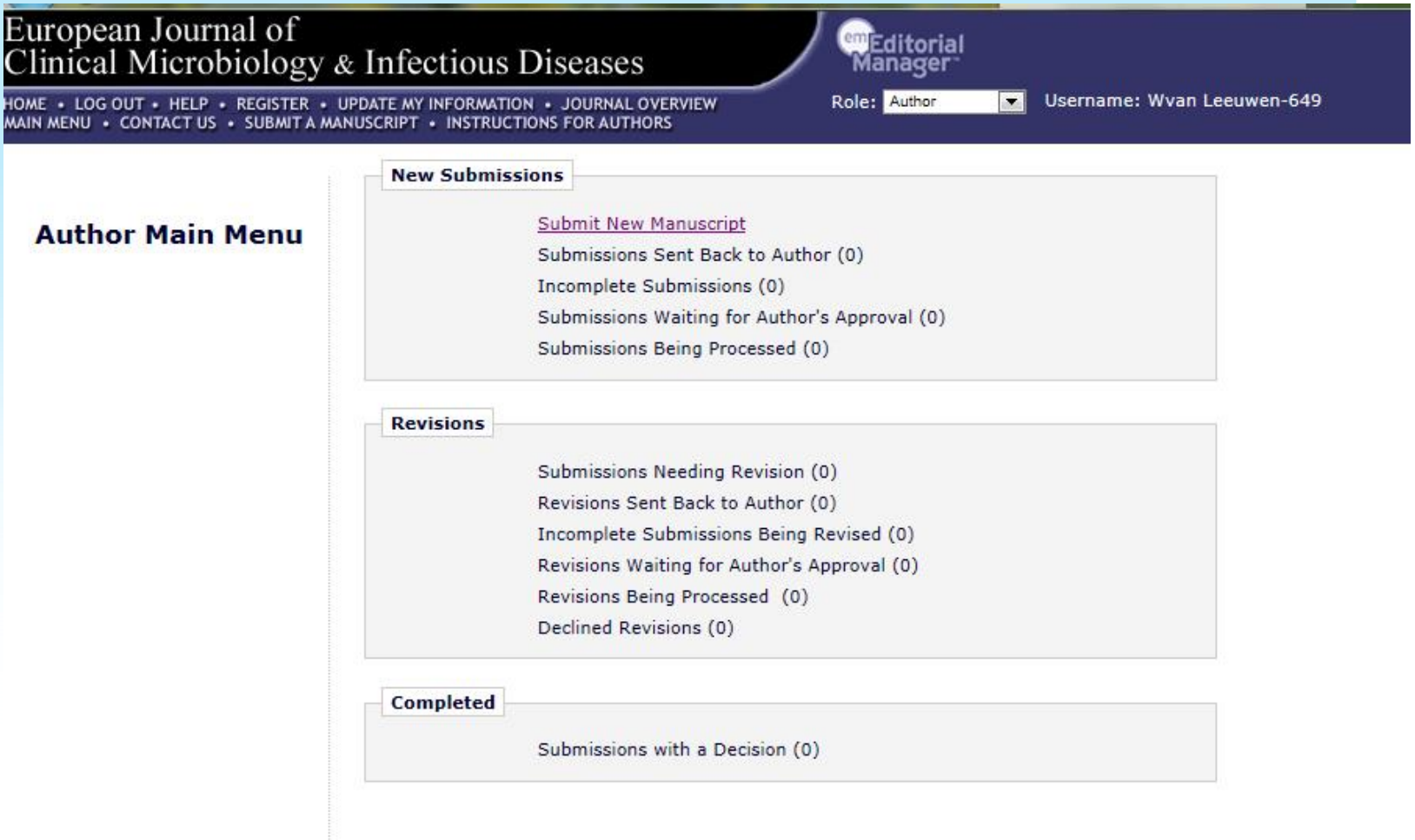
To change your username and password: Log in to the system and select 'Update My Information' from the menu above. At the top of the Update My Information screen, click the 'Change Password' button and follow the directions.

Forget your password? If you have forgotten your password, click the 'Login' button and click 'Forget Your Password?' at the bottom of the Login screen and follow the directions.

LOGIN

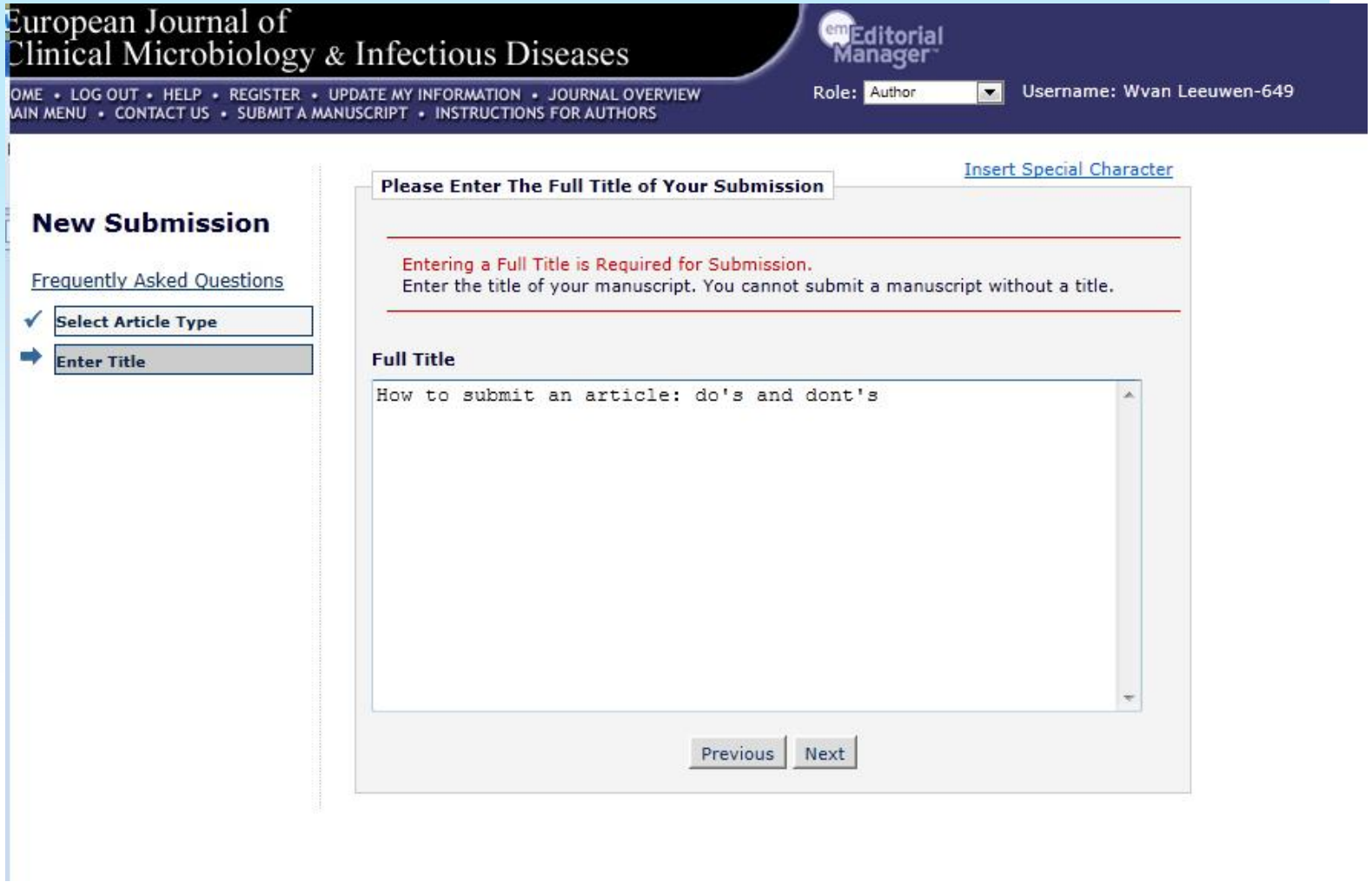

European Journal of
Clinical Microbiology & Infectious Diseases
Editorial Manager
HOME • LOGIN • HELP • REGISTER • UPDATE MY INFORMATION • JOURNAL OVERVIEW
MAIN MENU • CONTACT US • SUBMIT A MANUSCRIPT • INSTRUCTIONS FOR AUTHORS
Not logged in.
Insert Special Character
Please Enter the Following
Login
Username:
Password:
Author Login
Reviewer Login
Editor Login
Publisher Login
Send Username/Password
Register Now
Login Help
Software Copyright © 2011 Aries Systems Corporation.

SELECT “SUBMIT NEW MANUSCRIPT”

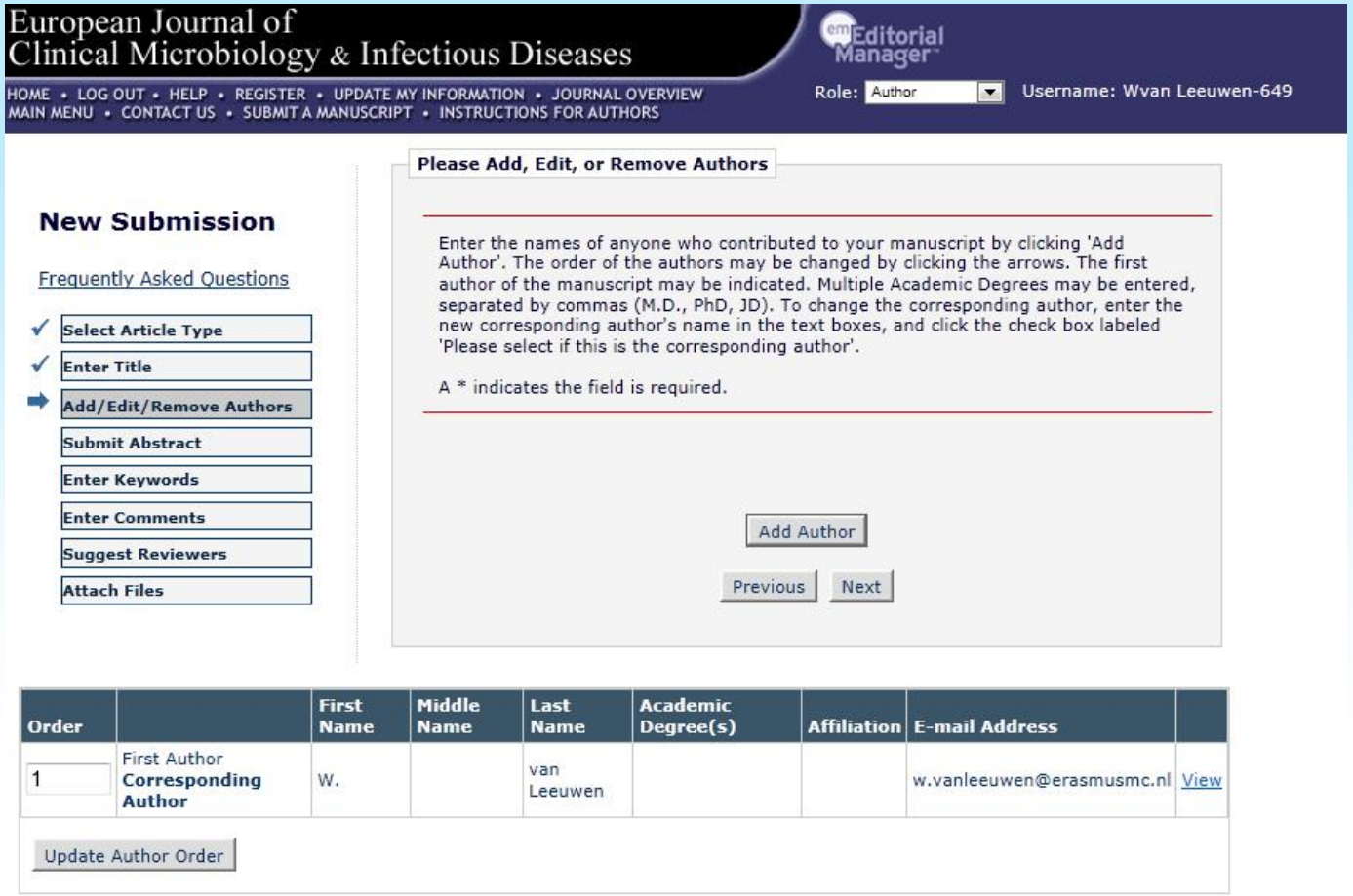


SELECT ARTICLE TYPE

NEW SUBMISSION…STARTING WITH A TITLE

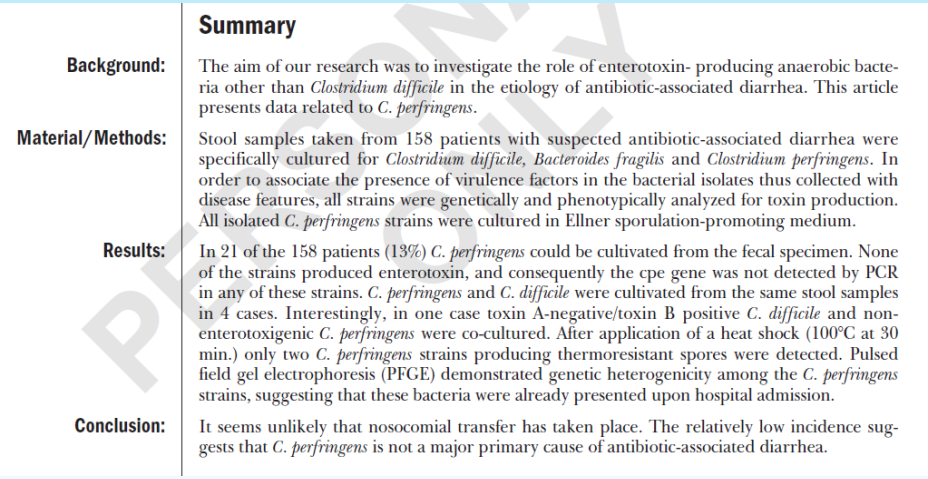


ET CETERA….ET CETERA….



3. How to write a good abstract and its key principles

- **STRUCTURED**



Summary

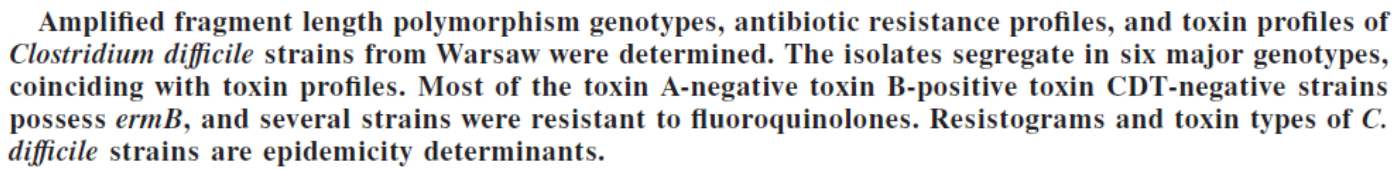
Background: The aim of our research was to investigate the role of enterotoxin- producing anaerobic bacteria other than *Clostridium difficile* in the etiology of antibiotic-associated diarrhea. This article presents data related to *C. perfringens*.

Material/Methods: Stool samples taken from 158 patients with suspected antibiotic-associated diarrhea were specifically cultured for *Clostridium difficile, Bacteroides fragilis* and *Clostridium perfringens*. In order to associate the presence of virulence factors in the bacterial isolates thus collected with disease features, all strains were genetically and phenotypically analyzed for toxin production. All isolated *C. perfringens* strains were cultured in Ellner sporulation-promoting medium.

Results: In 21 of the 158 patients (13%) *C. perfringens* could be cultivated from the fecal specimen. None of the strains produced enterotoxin, and consequently the cpe gene was not detected by PCR in any of these strains. *C. perfringens* and *C. difficile* were cultivated from the same stool samples in 4 cases. Interestingly, in one case toxin A-negative/toxin B positive *C. difficile* and non-enterotoxigenic *C. perfringens* were co-cultured. After application of a heat shock (100°C at 30 min.) only two *C. perfringens* strains producing thermoresistant spores were detected. Pulsed field gel electrophoresis (PFGE) demonstrated genetic heterogenicity among the *C. perfringens* strains, suggesting that these bacteria were already presented upon hospital admission.

Conclusion: It seems unlikely that nosocomial transfer has taken place. The relatively low incidence suggests that *C. perfringens* is not a major primary cause of antibiotic-associated diarrhea.

- **AND NON-STRUCTURED ABSTRACTS**



Amplified fragment length polymorphism genotypes, antibiotic resistance profiles, and toxin profiles of *Clostridium difficile* strains from Warsaw were determined. The isolates segregate in six major genotypes, coinciding with toxin profiles. Most of the toxin A-negative toxin B-positive toxin CDT-negative strains possess *ermB*, and several strains were resistant to fluoroquinolones. Resistograms and toxin types of *C. difficile* strains are epidemicity determinants.

KEY ASPECTS

- The abstract is the part of your manuscript that is copied by reference systems. Hence, it is more broadly published than your manuscript in total.
- This implies that you should write the abstract in such a fashion that it tells your entire story in a minimal number of words without changing the overall message of your paper to be published!!
- And it should attract readership so it must be challenging (as well as your TITLE!!)

A RECENT EXAMPLE FROM OUR DEPARTMENT

ABSTRACT

BACKGROUND

Nasal carriers of *Staphylococcus aureus* are at increased risk for health care–associated infections with this organism. Decolonization of nasal and extranasal sites on hospital admission may reduce this risk.

METHODS

In a randomized, double-blind, placebo-controlled, multicenter trial, we assessed whether rapid identification of *S. aureus* nasal carriers by means of a real-time polymerase-chain-reaction (PCR) assay, followed by treatment with mupirocin nasal ointment and chlorhexidine soap, reduces the risk of hospital-associated *S. aureus* infection.

RESULTS

From October 2005 through June 2007, a total of 6771 patients were screened on admission. A total of 1270 nasal swabs from 1251 patients were positive for *S. aureus*. We enrolled 917 of these patients in the intention-to-treat analysis, of whom 808 (88.1%) underwent a surgical procedure. All the *S. aureus* strains identified on PCR assay were susceptible to methicillin and mupirocin. The rate of *S. aureus* infection was 3.4% (17 of 504 patients) in the mupirocin–chlorhexidine group, as compared with 7.7% (32 of 413 patients) in the placebo group (relative risk of infection, 0.42; 95% confidence interval [CI], 0.23 to 0.75). The effect of mupirocin–chlorhexidine treatment was most pronounced for deep surgical-site infections (relative risk, 0.21; 95% CI, 0.07 to 0.62). There was no significant difference in all-cause in-hospital mortality between the two groups. The time to the onset of nosocomial infection was shorter in the placebo group than in the mupirocin–chlorhexidine group (P=0.005).

CONCLUSIONS

The number of surgical-site *S. aureus* infections acquired in the hospital can be reduced by rapid screening and decolonizing of nasal carriers of *S. aureus* on admission. (Current Controlled Trials number, ISRCTN56186788.)

From the Department of Medical Microbiology and Infectious Diseases, Erasmus University Medical Center, Rotterdam (L.G.M.B., H.F.L.W., A.B., H.A.V., M.C.V.); the Laboratory of Microbiology and Infection Control, Amphia Hospital, Breda (J.A.J.W.K., D.B.); the Department of Medical Microbiology and Infection Control, VU Medical Center, Amsterdam (J.A.J.W.K., C.M.J.E.V.-G., R.R.); the Department of Medical Microbiology (A.T., A.T.A.B.) and the Julius Center for Health Sciences and Primary Care (I.T.), University Medical Center, Utrecht; the Department of Medical Microbiology and Infectious Diseases, Canisius-Wilhelmina Hospital (A.V.), and the Center for Orthopedic Surgery, Sint-Maartenskliniek (A.V.), Nijmegen — all in the Netherlands; and Oxford University Clinical Research Unit, Hanoi, Vietnam (H.F.L.W.). Address reprint requests to Dr. Bode at Erasmus University Medical Center, Department of Medical Microbiology and Infectious Diseases, 's Gravendijkwal 230, 3015 CE Rotterdam, the Netherlands, or at l.bode@erasmusmc.nl.

N Engl J Med 2010;362:9-17.

OVERALL PRACTICAL SUGGESTIONS

- Think in sections, although not all journals may require a structured lay-out of the abstract
- Be even more critical of your work than you would be of the work prepared by others!!!! (ask your fellow-PhD students to review)
- Make sure your main messages come across to your future readership!!!!

CONCLUDING KEY POINTS

- Article writing requires structure, logic, dedication and precise and concise formulation.
- Manuscript submission is essentially easy (thousands of scientists have go through the process regularly….)
- Write your abstract last: steal your own phrases and condense and refine and polish, polish and polish!!!!!!